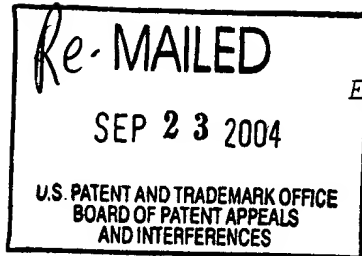


The opinion in support of the decision being entered today was not written for publication and is *not* binding precedent of the Board.

Paper No. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

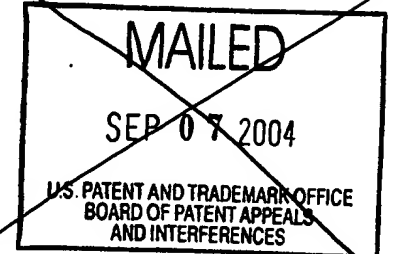
BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES



*Ex parte* SANTHANA KRISHNAMACHARI

Appeal No. 2004-0930  
Application No. 09/934,962

ON BRIEF



Before HAIRSTON, OWENS, and BLANKENSHIP, *Administrative Patent Judges.*

OWENS, *Administrative Patent Judge.*

DECISION ON APPEAL

This appeal is from the final rejection of claims 1-20, which are all of the claims in the application.

THE INVENTION

The appellant claims methods for characterizing and comparing images. Claims 1 and 6 are illustrative:

1. A method for characterizing an image comprising:  
partitioning the image into a plurality of partitions, each partition including a plurality of pixels, each pixel having a color,  
determining a frequency of occurrence of each color of the plurality of pixels within each partition, and  
creating a characterization that includes a plurality of measures that are proportional to the frequency of occurrence of a plurality of colors.

Sato et al. (Sato) 6,181,818 Jan. 30, 2001  
(effective filing date Nov. 14, 1995)

Claims 1-20 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Sato.

We reverse the rejection of claims 1-5 and 11-15, and affirm the rejection of claims 6-10 and 16-20.

Among claims 1-5 and 11-15 we need to address only the independent claims, i.e., claims 1 and 11. These claims require creating a characterization of an image that includes a plurality of measures that are proportional to the frequency of occurrence of a plurality of colors.

Sato obtains each element  $C_i$  of a block's color feature vector by counting the number of pixels within the hue range  $d_i-1$  to  $d_i+1$  in a histogram (col. 25, lines 56-58; figure 43).<sup>1</sup> Sato creates a color versus block size (i.e., resolution) index table which shows, for each  $C_i$  that is larger than a threshold value, the number of the block (region id) and the number of the image which includes the block (image id) (col. 26, lines 5-10; figure 45). Thus, "index information to images and regions having a predetermined frequency or higher of a specific color is stored in the index table **213** in units of blocks" (col. 26, lines 16-18).

The examiner argues that "Sato clearly teaches that the color feature vector ( $C_i$ ), each  $C_i$  represents the number of pixels of color  $C_i$  in the block, is a characterization measure that is proportional to the frequency of occupance (how many pixels in the color  $C_i$ ) in the local histogram of a block" (answer, eighth page)<sup>2</sup>. The appellant's claims, however, do not require characterizing a block but, rather, require characterizing an image comprised of partitions (which correspond

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<sup>1</sup> This corresponds to the appellant's determining a frequency of occurrence of each color of a plurality of pixels within each of a plurality of partitions.

<sup>2</sup> The pages in the examiner's answer are not numbered.

to Sato's blocks). Sato's image is characterized by the index table (col. 26, lines 16-18; figure 45). Each color  $C_i$  in that table merely represents the portion of the hue axis in the histogram from  $d_{i-1}$  to  $d_{i+1}$  (figure 43). For all  $d_{i-1}$  to  $d_{i+1}$  portions having a number of pixels which exceeds a threshold value, the image and block numbers are shown in the index table (col. 26, lines 5-10). Thus, a  $C_i$  value in the index table for which there are image and block numbers indicates that the amount of the color  $C_i$  in the block is above the threshold value, but does not indicate the degree to which the amount of color exceeds the threshold value. Hence, the color measures  $C_i$  in Sato's index table are not proportional to the frequencies of occurrence of the colors.

For the above reasons we find that the examiner has not carried the burden of establishing a *prima facie* case of anticipation by Sato of the invention claimed in the appellant's claims 1-5 and 11-15. We therefore reverse the rejection of those claims.

*Claims 6-10 and 16-20*

The appellant states that claims 6-10 and 16-20 stand or fall together (brief, page 3). We therefore limit our discussion to one of these claims, i.e., claim 6. See *In re Ochiai*, 71 F.3d

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1565, 1566 n.2, 37 USPQ2d 1127, 1129 n.2 (Fed. Cir. 1995); 37 CFR  
§ 1.192(c)(7)(1997).

Sato discloses a method for comparing colors in respective regions of a registered image and a designated image (col. 29, lines 23-25). The registered image is input and divided into regions with similar colors, and color amounts in each region are extracted, mapped in the HSV color space and stored as a ratio to the area of the entire image (col. 27, lines 46-52 and 60-65; col. 28, lines 31-60). The designated images' color is converted into H, S and V values that are mapped on the same color space as the registered image, and the areas of the colors are compared (col. 29, line 1 - col. 30, line 40). These areas necessarily indicate the frequency of occurrence of the colors.

Thus, the examiner's finding that Sato discloses each element of the method claimed in the appellant's claim 6 reasonably appears to be correct (answer, tenth page). For this reason and because the appellant does not challenge the examiner's finding, we affirm the rejection of claim 6 and claims 7-10 and 16-20 that stand or fall therewith.

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### DECISION

The rejection of claims 1-20 under 35 U.S.C. § 102(e) over Sato is reversed as to claims 1-5 and 11-15, and affirmed as to claims 6-10 and 16-20.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

KENNETH W. HAIRSTON  
Administrative Patent Judge

BOARD OF PATENT

*Terry J. Owens*  
TERRY J. OWENS  
Administrative Patent Judge

APPEALS AND  
INTERFERENCES

HOWARD B. BLANKENSHIP  
*Administrative Patent Judge*

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